

EXHIBIT A

**REPLY EXPERT REPORT OF
CHRISTOPHER M. JAMES, PH.D.**

Blackrock Core Bond Portfolio et al.
v.
U.S. Bank National Association

November 8, 2017

CONFIDENTIAL

PURSUANT TO STIPULATION AND ORDER

I. INTRODUCTION AND SUMMARY OF REPLY OPINIONS

1. In his latest report, the Supplemental Expert Rebuttal Report of Michael L. Hartzmark, dated August 18, 2017 (the “Hartzmark Supplemental Rebuttal”), Dr. Hartzmark has changed his approach to awarding damages. Prior to his most recent report, Dr. Hartzmark proposed to calculate Trust-level damages and distribute them inside each Trust by running them through each Trusts’ cash-flow waterfall. Dr. Hartzmark now proposes a new approach: He would only hypothetically run any Trust-level damages through each Trusts’ waterfall; he would attempt to calculate the “financial benefit” of that hypothetical inside-the-trust distribution; and he would award that financial benefit as cash payments outside of the trust. He proposes to calculate the financial benefit of a hypothetical inside-the-trust distribution by reference to the difference between the “pre-award tranche price” and “post-award tranche price.”¹

2. I submit this reply report to respond to this new approach, which was not mentioned in any of Dr. Hartzmark’s prior reports in this matter.² To be clear, nothing about Dr. Hartzmark’s new approach purports to respond to the criticisms I have already raised regarding his damages methodology. The purpose of this report is to explain the additional problems raised by this new outside-the-trust approach.

3. The need for Dr. Hartzmark to calculate the financial benefit of a hypothetical inside-the-trust distribution exacerbates the existing issues associated with Dr. Hartzmark’s approach. Dr. Hartzmark provides no objective methodology for determining the financial

¹ See Hartzmark Supplemental Rebuttal, ¶¶ 49-84.

² See Amended Expert Report of Michael L. Hartzmark, June 21, 2017 (“Hartzmark Amended Report”), Expert Rebuttal Report of Michael L. Hartzmark, March 3, 2017 (“Hartzmark Initial Rebuttal”), Expert Report of Michael L. Hartzmark, November 1, 2016 (“Hartzmark Initial Report”).

benefit of inside-the-trust payments. He would need to make numerous subjective decisions regarding how he would calculate these financial benefits, and he reveals no methodology for how he would do so in his report. It is not even clear as of what date he would try to determine what he refers to as the “pre-award tranche price” and “post-award tranche price.”

4. Dr. Hartzmark alludes to three possible options for determining those “prices”: observed transaction prices, vendor valuations such as IDC and Bloomberg’s BVAL, or a valuation model of Dr. Hartzmark’s own creation. None of these approaches are viable.

(a) *Observed transaction prices.* Dr. Hartzmark cannot rely on observed transaction prices to determine pre-award and post-award prices because the market for RMBS is not an efficient market. It is an over-the-counter market in which each transaction is negotiated, and there is no single consensus price for a security. Even if one could obtain actual transaction prices, such transaction prices, to the extent that they exist, may incorporate to varying degrees an expectation of recovery or, in some cases, the impossibility of the buyer sharing in the recovery. It would not be possible to determine to what extent any expectation of a recovery would be reflected in any particular transaction price.

(b) *Vendor valuations.* Dr. Hartzmark cannot use valuations from third-party providers such as IDC or Bloomberg to determine the pre-award and post-award prices. Third-party vendors’ models are proprietary, and neither the data nor many of the actual assumptions incorporated into those models are available to the public or Dr. Hartzmark. To the extent the third-party models explicitly incorporate expectation of recovery against the trustee in this litigation, they are unreliable for the same reasons as observed transaction prices. Indeed, to the extent vendor valuations incorporate market quotes and observed transaction prices, those valuations may also reflect any market expectations regarding recovery against the trustee.

Additionally, deciding which third-party vendor to use would generate conflicts among investors.

(c) *A valuation model of Dr. Hartzmark's own creation.* Because Dr. Hartzmark says only that he will estimate prices “using a reliable valuation model”—which is inherently vague and subjective—class members will have no way of determining whether to opt out of the litigation. Dr. Hartzmark’s lack of specificity regarding how he would construct his model for estimating pre-award and post-award prices also will generate extensive conflicts among class members concerning how to go about it. Each type of holder will have an incentive to choose the valuation model that maximizes value to those holders. Dr. Hartzmark incorrectly dismisses this concern, arguing that there are no conflicts or opt out issues because no tranche will be worse off than it would be absent any damages award. The relevant comparison is whether a Noteholder would be in at least the same position as they would be in an individual action controlled by that Noteholder.

II. BACKGROUND AND DESCRIPTION OF DR. HARTZMARK’S OUTSIDE-THE-TRUST MODEL

5. In the Hartzmark Amended Report and Hartzmark Initial Rebuttal, Dr. Hartzmark proposed to calculate Trust-level Put Back and Servicing Damages and then use each Trust’s waterfall to allocate payment of these damages among the individual tranches. Dr. Hartzmark’s prior report indicated that damages would be paid inside the Trusts using the so-called “strict waterfall rules for distributing payments or distributions in the Governing Agreements.”³ In particular, Dr. Hartzmark stated that he would “us[e] the [Trusts’] waterfall[s] to allocate the Put

³ Hartzmark Amended Report, ¶ 67.

Back Damages and Servicing Damages,”⁴ a process that would necessarily involve reducing the principal balances due to Noteholders.⁵ This can occur only when distributions are made inside a trust.

6. Dr. Hartzmark’s approach has now changed. He now “propose[s] that any damages award be paid outside of the Covered Trusts. . . .”⁶ He proposes to hypothetically run any damages awarded in this case through each Trust’s waterfall and then attempt to calculate the “financial benefit” of: (1) any inside *cash* payment a tranche would receive, (2) any *write-up* a tranche would receive, and (3) any post-award *market price increase*—or all three.⁷ “Once these [tranche-level] *financial benefits* are calculated based on hypothetical inside payments, . . . any damages award [would] be paid outside of the Covered Trusts” on a pro-rata basis to the

⁴ Hartzmark Amended Report, ¶ 67 (emphasis removed). He, moreover, referred to the Trusts’ waterfalls as the mechanism to “*distribute* Put Back and Servicing Damages . . .” Hartzmark Amended Report, ¶ 68 (emphasis added).

⁵ Hartzmark Initial Rebuttal, ¶¶ 52-53. Indeed, Dr. Hartzmark stated unequivocally that “[i]f the Trustee is found liable and a fixed damages amount in the form of cash payments are awarded in this matter, whether the damages are awarded as subsequent recoveries or prepayments, the aggregate amount of principal balances of the Notes that will be exchanged for the cash payments *must* decline.” Hartzmark Initial Rebuttal, ¶ 52 (emphasis in original). Furthermore, in reference to junior holders, Dr. Hartzmark asserted that they “might not receive a single dollar in cash as compensation in a damages award, while possibly receiving the largest benefit when accounting for the write-up of realized losses applied to its tranche (or possibly transforming an inactive tranche, making it active again). . . .” Hartzmark Initial Rebuttal, ¶ 55. Dr. Hartzmark’s statement that certain Noteholders won’t receive any cash payment contradicts his newly proposed outside-the-trust allocation approach. Furthermore, write-ups of note principal balances, like the reduction of principal balances, can occur only in the context of using the waterfall itself to allocate the distribution. Finally, Dr. Hartzmark opined at length in his initial rebuttal report on the ability of his methodology to accommodate opt outs by creating “a new CUSIP with the same features and seniority as the original tranche.” Hartzmark Initial Rebuttal, ¶ 78. If Dr. Hartzmark had any intention of distributing the damages award outside the trust, no new CUSIP would be necessary.

⁶ Hartzmark Supplemental Rebuttal, ¶ 66.

⁷ Hartzmark Supplemental Rebuttal, ¶¶ 8, 50, 66, 69.

Noteholders in each tranche that remain in the class.⁸ According to Dr. Hartzmark, “senior and junior Noteholders will in general be indifferent between the two methods of distribution – i.e., inside versus outside payments.”⁹ This new outside-the-trust approach was not discussed in any of the three reports he previously submitted in this case.

7. Under Dr. Hartzmark’s new approach, class members receive cash payments that are supposed to equal the value of hypothetical internal changes that would have resulted from cash flowing through the waterfall, principal balances being paid down or written up, and collateral support being altered. Under his prior methodology, Dr. Hartzmark recognized that the value of investor holdings would (or could) change post-award, but his approach did not require him to quantify this change; the market would determine the financial benefits associated with each tranche. Under his new approach, Dr. Hartzmark must calculate it all.

8. Specifically, Dr. Hartzmark proposes that each tranche would recover an amount equal to (1) the cash payment that would flow to that tranche under the particular Trust’s waterfall rules, *plus* (2) “[t]he market value of the post-award principal balance of the tranche” (based on hypothetical post-award market prices), *minus* “[t]he market value of the pre-award principal balance of the tranche” (based on undefined and hypothetical pre-award market prices).¹⁰

9. For cash payments, the benefit is “calculated based on the discount to par of the pre-award price.”¹¹ For example, if there is a \$10 million distribution to a tranche with a pre-

⁸ Hartzmark Supplemental Rebuttal, ¶ 66 (emphasis in original).

⁹ Hartzmark Supplemental Rebuttal, ¶ 54.

¹⁰ Hartzmark Supplemental Rebuttal, ¶ 68

¹¹ Hartzmark Supplemental Rebuttal, ¶ 77. Dr. Hartzmark’s proposal to calculate the financial benefit of a cash payment in this manner may result in Noteholders receiving a windfall. For tranches (many of which will be senior tranches under Dr. Hartzmark’s proposed application of

award price of 90, the financial benefit of the inside cash payment is calculated as \$10 million * $(1.0 - 0.90) = \$1$ million. If the tranche is priced above par, any cash distribution would be at a loss.

10. For market value, Dr. Hartzmark does not specify how and as of what date he will determine pre-award-distribution prices. For post-award prices, Dr. Hartzmark proposes to calculate them using a “reliable valuation model.”¹² Dr. Hartzmark provides no specifics regarding what the valuation model would look like. Instead, he asserts that prices “could be estimated using one of the many valuation models that are available through third-parties such as Bloomberg, IDC, etc.”¹³

11. In the single example supporting his new outside-the-trust model,¹⁴ Dr. Hartzmark assumes that the only thing affecting the market value of a tranche is its collateral cushion, using a so-called “weighted average” approach “for illustrative purposes only.”¹⁵ In this example, two

the Trusts’ waterfall rules) that are valued at less than 100 for reasons that have nothing to do with diminished collateral cushion or trustee conduct, Dr. Hartzmark nonetheless proposes to pay them off at 100. Dr. Hartzmark makes no effort to explain or demonstrate how paying off senior holders at par compensates them for diminished collateral caused by the trustee’s alleged wrongdoing, rather than factors like changes in the notes’ coupon rate.

¹² Hartzmark Supplemental Rebuttal, ¶ 76 fn. 96.

¹³ Hartzmark Supplemental Rebuttal, ¶ 76 fn. 96.

¹⁴ See Hartzmark Supplemental Rebuttal, ¶¶ 71-80, Exhibit 4.

¹⁵ Hartzmark Supplemental Rebuttal, ¶ 76 fn. 96. Dr. Hartzmark’s inclusion of Exhibit 4, but then qualifying its assumptions as merely “for illustrative purposes,” is a classic bait and switch. Dr. Hartzmark needs Exhibit 4 to illustrate that an inside payment of X dollars will result in an equal financial benefit that can be paid outside the trust. His example in Exhibit 4 is able to show that inside cash payments are equal to inside financial benefits by relying on the hypothetical weighted averages approach that he describes as “for illustrative purposes only.” If Dr. Hartzmark deviates from that weighted average approach and actually models how prices would change if a payment was distributed using the waterfall, there is no reason to believe that the financial benefits will always be equal to the cash payment inside the trust. Under those circumstances, his inside and outside equivalence—the basis for his opinion that holders will be indifferent to which approach is used—falls apart. Dr. Hartzmark either has to rely on the

tranches that are supported by the same amount of collateral should have the same exact (and predictable) price. In other words, Dr. Hartzmark assumes that the same amount of principal balance will have the same value pre- and post-award (regardless of the tranche in which the principal balance is held), because it is supported by the same level of collateral.¹⁶

III. DR. HARTZMARK'S NEW OUTSIDE-THE-TRUST ALLOCATION MODEL PRESENTS ADDITIONAL METHODOLOGICAL PROBLEMS.

12. Dr. Hartzmark claims that the “financial benefit” of inside and outside payments will be equivalent,¹⁷ but provides no objective methodology for determining the financial benefit. Dr. Hartzmark’s outside-the-trust model instead depends on numerous subjective decisions made by Dr. Hartzmark regarding the calculation of pre- and post-award tranche prices, none of which are specified.¹⁸ For example, it is ambiguous what Dr. Hartzmark means by pre-award and post-award—it is not clear as of what date he would try to determine prices.

13. In any event, Dr. Hartzmark has only three possible options to determine the price: observed transaction prices, vendor valuations such as IDC and Bloomberg’s BVAL, or a valuation model of Dr. Hartzmark’s own creation. All three options are flawed, as discussed in detail below.

1. Dr. Hartzmark Cannot Rely On Observed Transaction Prices to Set Pre- and Post-Award Prices.

14. The value of any security is a function of its expected future cash flows. In well-

weighted average approach or some other method to artificially force the financial benefit of an inside payment always equals the cash payment into each of the 25 Trusts.

¹⁶ Hartzmark Supplemental Rebuttal, ¶ 76 fn. 96.

¹⁷ Hartzmark Supplemental Rebuttal, ¶ 54, Section VI.D.

¹⁸ See Hartzmark Supplemental Rebuttal, ¶ 76 fn. 96 (stating that “post-award prices would be estimated using a reliable valuation model,” and that they “could be estimated using one of the many valuation models that are available through third-parties such as Bloomberg, IDC, etc.”).

functioning, efficient markets, such as the major stock exchanges, market prices represent investors' equilibrium views as to future cash flows. As discussed in the Amended Expert Report of Christopher M. James, July 28, 2017 (the "Amended James Report"), the market for RMBS is not this type of market. It is an over-the-counter market in which each transaction is the subject of a negotiation.¹⁹ Unlike publicly traded stock, there is no one single consensus closing price for RMBS.

15. Similarly, even if one could obtain actual transaction prices, one cannot determine without highly individualized inquiry the extent to which they reflect the expectation of a recovery against the trustee. The issue regarding expectations can be illustrated by an example. Imagine that the stock price for Company A is \$40 today. Now suppose that it is publicly announced that Company B has reached an agreement to acquire Company A for \$50 per share. The price of Company A will increase to near \$50 immediately after the announcement based on the expectation that the acquisition will go through. If one were to attempt to determine the financial benefit of the acquisition to Company A's shareholders, it would be incorrect to simply compare the price on the day before the acquisition closes (which is well after the initial announcement of the deal) to the price on the day the acquisition closes. There would be little to no difference in the prices on these two dates.

16. Regardless of which date Dr. Hartzmark selects as the appropriate pre-award date, the transaction prices may include the relative expectations of the counterparties regarding any

¹⁹ See Amended James Report, ¶¶ 88-91. That certain late-purchasing and sophisticated investors would have incorporated historical performance information and expectations of future performance into the prices they were willing to pay does not mean that the market for RMBS is efficient. See Hartzmark Supplemental Rebuttal, ¶ 20. In other words, although there is no consensus market price for RMBS or a market that rapidly incorporates all available information into prices, on a transaction-by-transaction basis, each counterparty is baking in its own expectations of performance into the price they are willing to buy and sell RMBS.

recovery that will be obtained against U.S. Bank in this case or any other outstanding litigation. If Dr. Hartzmark waits until a class is certified to determine pre-award prices, then the expectation of recovery against the trustee may increase to reflect the increased likelihood of recovery following that development. If Dr. Hartzmark proposes to rely on observed transaction prices from some point in time before the proposed class cutoff (60 days after a class is certified) and damages are not awarded until after the class cutoff, he faces an even bigger problem. Under those circumstances, post-award transaction prices will necessarily be lower. This would make the model completely irrelevant because anyone who purchases a note more than 60 days after a class is certified is ineligible to obtain any benefit of a damages award under Plaintiffs' proposed class definition.²⁰

17. If Dr. Hartzmark sets the pre-award prices more than 60 days after a class is certified, observed transaction prices (if any) for those notes could not possibly reflect any expectation of repurchase or recovery. However, under those circumstances, post-award transaction prices cannot possibly be higher (resulting in no price benefit of an inside payment), because, by definition, anyone purchasing notes post-award would be ineligible to participate in any recovery against U.S. Bank.

2. Dr. Hartzmark Cannot Use Vendor Valuations to Estimate Pre- and Post-Award Prices.

18. Several firms provide independent, periodic valuation of private-label RMBS to customers for a fee. In his Supplemental Rebuttal, Dr. Hartzmark suggests that he could estimate

²⁰ See Plaintiffs' Memorandum of Points and Authorities in Support of Renewed Motion for Class Certification and Appointment of Class Representatives and Class Counsel, *BlackRock Core Bond Portfolio et al. v. US Bank National Association*, June 21, 2017, p. 1 (seeking to certify a class of holders who purchase their notes no later than 60 days after the final order certifying the class and must hold through the date of final judgment in the district court).

post-award prices “using one of the many valuation models that are available through third-parties such as Bloomberg, IDC, etc.”²¹ But for many of the same reasons that observed transaction prices cannot reliably estimate prices, Dr. Hartzmark cannot use valuations from third-party providers such as IDC or Bloomberg to determine the “pre-award tranche price” or the “post-award tranche price.” As discussed below, third-party vendors use proprietary models that are based on many factors, and neither the data nor many of the actual assumptions incorporated into those models are available to the public. To the extent the third-party models explicitly incorporate an expectation of recovery against the trustee in this litigation, they are inappropriate for Dr. Hartzmark’s purpose for the same reasons as observed transaction prices. Furthermore, to the extent vendor valuation is keyed to or influenced by market quotes and observations, they are not prices that reflect the absence of expectation of recovery against the trustee.

19. Indeed, that is the reason Dr. Hartzmark cannot rely on valuations provided by the two third-party vendors cited in his report, Bloomberg and IDC—both incorporate market observations and broker-dealer quotes into their valuations. Bloomberg’s “BVAL” Evaluated Value Service, provides RMBS valuations based on “real-time access *to market observations* from a wealth of contributed sources. This accumulated mass of market data is the main driver of an innovative and quantitative approach that *first corroborates market levels on actively traded bonds* and then derives a comparable relative value price for those securities that are less liquid.”²² BVAL assigns a “BVAL Score” measured on a scale of 1 (the lowest) to 10 (the

²¹ Hartzmark Supplemental Rebuttal, ¶ 76 fn. 96.

²² Bloomberg Valuation Service fixed income securities, Content & Data Solutions, Pricing Data, https://www.bbhub.io/solutions/sites/8/2015/09/BVAL_FI_Fact_Sheet_US_DIG1.pdf (emphasis added).

highest) to every valuation which is “designed to gauge the amount and consistency of data used in calculating” the final valuation.²³

20. [REDACTED]

[REDACTED]

21. Even if Dr. Hartzmark could find a way to control for expectation of recovery against the trustee, deciding which third-party vendor to use would generate conflicts among investors. There is no such thing as consensus prices provided by third-party vendors. The valuations provided by these vendors often are dramatically different for the same tranche on the same date. As the table below demonstrates, for the tranches at issue in this case, the valuations provided by the IDC and BVAL models are rarely, if ever, consistent with one another. Sometimes IDC’s valuations are higher and sometimes BVAL’s are higher. Since Dr. Hartzmark proposes to determine the changes in pre-award and post-award prices, it is shown in

²³ Bloomberg Valuation Service fixed income securities, Content & Data Solutions, Pricing Data, https://www.bbhub.io/solutions/sites/8/2015/09/BVAL_FI_Fact_Sheet_US_DIG1.pdf.

²⁴ [REDACTED]

²⁵ [REDACTED]

²⁶ [REDACTED]

Figure 1 below that IDC and BVAL are not consistent in the amount that valuations change over time.

Figure 1
IDC and BVAL Value Changes
1/29/16 – 10/18/17

Trust Name	Tranche	1/29/2016		10/18/2017		Value Change ^[1]	
		BVAL Value	IDC Value	BVAL Value	IDC Value	BVAL Value	IDC Value
AABST 2004-6	M2	91.14	91.04	99.61	92.97	8.46	1.93
AABST 2005-1	M4	83.52	79.62	97.31	94.58	13.79	14.96
AABST 2005-3	M1	98.07	99.35	99.91	-	1.84	-
AABST 2005-3	M2	86.90	92.21	97.97	99.12	11.08	6.91
ACCR 2004-2	A2	92.21	89.30	98.39	94.71	6.18	5.41
ACCR 2005-3	A1	99.91	99.94	-	-	-	-
ACCR 2005-3	M1	97.75	98.12	99.93	100.02	2.19	1.91
ACCR 2005-3	M2	90.03	91.82	98.70	98.62	8.67	6.80
ACCR 2005-3	M3	83.34	82.65	96.78	95.26	13.44	12.61
BAYRT 2005-E	A2A	-	-	-	-	-	-
BAYV 2005-A	A2A	-	-	-	-	-	-
GPHE 2004-2	A2	-	94.04	-	99.28	-	5.23
GPHE 2004-3	A	-	93.33	-	97.20	-	3.87
HEMT 2006-2	1A1	50.21	42.12	42.47	40.69	7.73	1.43
HMBT 2004-1	2A	93.13	93.31	98.12	95.55	5.00	2.24
HMBT 2004-2	A1	89.09	94.19	97.29	98.74	8.20	4.55
HMBT 2005-1	A1	82.48	85.36	96.71	90.94	14.23	5.58
HMBT 2005-1	A2	82.92	82.15	93.45	91.14	10.53	8.99
HMBT 2005-1	M1	80.93	79.60	94.15	90.82	13.22	11.22
HMBT 2005-1	M2	80.18	77.81	92.91	90.67	12.73	12.86
HMBT 2005-3	A1	90.78	92.65	97.59	99.44	6.81	6.79
HMBT 2005-4	A1	89.20	92.18	101.63	98.43	12.43	6.26
HMBT 2005-4	A2	89.46	92.62	99.77	98.90	10.31	6.28
HMBT 2005-5	A1	84.73	86.56	95.69	98.56	10.95	12.00
HMBT 2006-2	A1	87.00	88.19	95.96	98.38	8.96	10.19
IRWHE 2004-1	1A1	-	89.62	-	93.68	-	4.06
IRWHE 2005-1	B1	-	99.25	-	100.53	-	1.29
LABS 2005-1	A	-	90.04	-	96.84	-	6.80
MLMI 2005-A9	1A1	95.05	89.30	98.70	94.83	3.64	5.54
MLMI 2005-A9	2A1B	-	99.51	-	-	-	-
MLMI 2005-A9	2A1E	90.48	95.12	96.77	99.21	6.29	4.09
MLMI 2005-A9	3A1	82.32	92.77	89.30	92.17	6.98	0.60
MLMI 2005-A9	5A1	87.20	91.28	95.79	92.12	8.59	0.84
NYMT 2005-2	A	-	92.27	-	96.25	-	3.98
TMST 2007-1	A2B	80.02	87.67	89.87	87.38	9.85	0.29
TMST 2007-2	A1	92.79	86.97	95.80	92.35	3.02	5.39
TMST 2007-2	A2A	85.01	94.00	90.48	96.05	5.47	2.04
TMST 2007-2	A3A	91.40	97.78	93.52	96.11	2.11	1.66
TMST 2007-3	2A1	-	89.01	-	91.61	-	2.60
TMST 2007-3	3A1	-	88.74	-	90.42	-	1.68
TMST 2007-3	4A1	-	91.92	-	89.37	-	2.55
TMST 2007-3	4A3	-	98.06	-	94.24	-	3.82

Source: Bloomberg; CapiQ

Note: Dashes indicate that the respective IDC or BVAL value data for the tranche on that particular date is unavailable.
[1] Value Changes are presented as absolute values.

22. Furthermore, as shown in Figure 2, Bloomberg itself does not have high confidence in the valuations it has assigned to the tranches for the Trusts at issue in this case.

Figure 2

Summary of BVAL Scores

10/19/17

Trust Name	Tranche	BVAL Value	BVAL Score
AABST 2004-6	M2	99.26	5
AABST 2005-1	M4	96.87	4
AABST 2005-3	M1	99.90	5
AABST 2005-3	M2	97.82	5
ACCR 2004-2	A2	98.11	5
ACCR 2005-3 ^{[1][2]}	A1	-	-
ACCR 2005-3	M1	99.80	5
ACCR 2005-3	M2	98.48	5
ACCR 2005-3	M3	96.29	4
BAYRT 2005-E ^[1]	A2A	-	-
BAYV 2005-A ^[1]	A2A	-	-
GPHE 2004-2 ^[1]	A2	-	-
GPHE 2004-3 ^[1]	A	-	-
HEMT 2006-2	1A1	42.11	5
HMBT 2004-1	2A	97.79	4
HMBT 2004-2	A1	96.89	3
HMBT 2005-1	A1	96.22	4
HMBT 2005-1	A2	93.05	4
HMBT 2005-1	M1	93.65	4
HMBT 2005-1	M2	92.26	4
HMBT 2005-3	A1	97.25	5
HMBT 2005-4	A1	101.28	4
HMBT 2005-4	A2	99.42	4
HMBT 2005-5	A1	95.27	3
HMBT 2006-2	A1	95.55	4
IRWHE 2004-1 ^[1]	1A1	-	-
IRWHE 2005-1 ^[1]	B1	-	-
LABS 2005-1 ^[1]	A	-	-
MLMI 2005-A9	1A1	98.47	1
MLMI 2005-A9 ^{[1][2]}	2A1B	-	-
MLMI 2005-A9	2A1E	96.50	5
MLMI 2005-A9	3A1	89.00	3
MLMI 2005-A9	5A1	95.52	5
NYMT 2005-2 ^[1]	A	-	-
TMST 2007-1	A2B	89.61	4
TMST 2007-2	A1	95.54	4
TMST 2007-2	A2A	90.20	2
TMST 2007-2	A3A	93.22	4
TMST 2007-3 ^[1]	2A1	-	-
TMST 2007-3 ^[1]	3A1	-	-
TMST 2007-3 ^[1]	4A1	-	-
TMST 2007-3 ^[1]	4A3	-	-

Source: Bloomberg

Note:

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[1] BVAL data is not available in Bloomberg for this security.

[2] Tranche is paid off.

23. Even if Dr. Hartzmark could use a third-party provider to estimate post-award prices, he would have to choose one over the others.²⁷ That decision would have different consequences for different class members. Therefore, selection of the vendor valuation would precipitate conflicts as to which one would benefit particular investors more. More fundamentally, if, as the tables above show, these valuation services cannot agree on a valuation today or at any point in the past, then they will not reliably estimate the price impact of a hypothetical inside-the-trust payment at some unknown time in the future.

3. Any Model for Estimating Prices Developed By Dr. Hartzmark Will Present a Host of Problems.

24. Because Dr. Hartzmark cannot rely on observed transaction prices or vendor valuations, he must develop his own model for estimating pre- and post-award prices. Dr. Hartzmark has not articulated in his report how he would construct such a model. The subjective decisions that Dr. Hartzmark will have to make in constructing a model will present a host of problems for putative class members.

25. First, because Dr. Hartzmark says only that he will estimate prices “using a reliable valuation model”²⁸—which is vague and subjective—class members will not know whether to opt out of the litigation. Dr. Hartzmark has not explained how he proposes to actually estimate the price impact of allocating money inside the trust (and thus actually determine what financial benefits are sufficient to pay outside the trust). Without clarity on how Dr. Hartzmark intends to proceed or on his undisclosed “valuation model,” class members have no way of

²⁷ Other pricing services, each with a different proprietary pricing methodology, include Thompson Reuters; Standard & Poor’s pricing services, Capital IQ; and JPMorgan’s pricing service, Pricing Direct. The existence of multiple vendor pricing services increases the likelihood of disputes among class members over which service reliably estimates market prices and the post-award value of an inside-the-trust payment.

²⁸ Hartzmark Supplemental Rebuttal, ¶ 76 n.96.

knowing whether it is a methodology they are willing to be bound by. Dr. Hartzmark, moreover, has not responded to the prior observation that his proposed methodology will effectively compel junior holders to opt out by making it impossible for them to evaluate whether they will receive any payment or even how that payment would be calculated. As Dr. Hartzmark admits, “only after aggregate damages are calculated and the waterfall is run will [the junior Noteholders] know whether or not their losses are from defective or non-defective loans.”²⁹ As noted in the Amended James Report, if allocation (and the financial benefits associated with that allocation) depends on which losses Dr. Hartzmark attributes to trustee conduct and which he does not, holders will not know whether to opt out until after such a determination is made at trial.³⁰

26. Second, Dr. Hartzmark’s failure to articulate how he would construct his model for estimating pre- and post-award prices will generate extensive conflicts among class members. Estimating RMBS prices is not nearly as formulaic as Dr. Hartzmark apparently asserts.³¹ Given the nature of RMBS valuation modeling, there are numerous, subjective decisions made by the

²⁹ Hartzmark Initial Rebuttal, ¶ 76 (emphasis removed).

³⁰ See Amended James Report, ¶ 148.

³¹



individual running the model that can dramatically affect the value assigned to a note.

27. Market participants often use valuation models to project expected future cash flows and generate a “value.” These models have several features, the most important of which is forecasting future performance of a pool of mortgages. When forecasting future performance, a user may set different performance assumptions, depending on the objective of the exercise or the user’s own outlook (which itself may be derived from a wealth of sources, including econometric models, research, market color,³² back-testing, experience, and/or other techniques).

[REDACTED]

[REDACTED].³³

28. Once tranche cash flows have been generated, an analyst can assign a “price” to the tranche by applying a calculated discount rate to calculate the present value of the projected tranche cash flows. The discount rate takes into account both the time-value of money and the risk or uncertainty of future cash flows.³⁴ In evaluating discount-rate assumptions, an analyst may rely on published RMBS yields, market commentary, observed transactions to validate a particular discount rate, or some combination of these.

29. There are numerous points in the process of RMBS modeling where an individual modeling RMBS (like Dr. Hartzmark here) can significantly affect the value or price assigned to

³² Market color is anecdotal evidence of trends.

³³

[REDACTED]

³⁴ Stewart C. Meyers and Richard A. Brealey, *Principals of Corporate Finance*, 6th ed., (McGraw-Hill Series in Finance, 2000), p. 244. (“The risk-adjusted discount rate adjusts for both time and risk.”).

a note. For example, how a user defines and toggles collateral performance inputs (and the sensitivity or weight that a user assigns to each input) can profoundly affect the projected tranche-level cash flows.³⁵ The discount rate similarly requires users to apply assumptions regarding future performance based on a variety of inputs.³⁶ Furthermore, the complexity of assigning a value to RMBS renders any valuation sensitive to changes in the underlying assumptions.³⁷

30. Whenever the time comes for Dr. Hartzmark to institute his unspecified “reliable valuation model,” class members will conflict over how to value the effect of cash flows in the

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³⁷ See, e.g., Frank J. Fabozzi, *Advances in the Valuation and Management of Mortgage-Backed Securities*, (Wiley, January 1999), p. 58 (“[R]esults are also highly sensitive to assumptions and methodologies underlying the horizon price calculation.”); Eduardo S. Schwartz and Walter N. Torous, Prepayment and the Valuation of Mortgage-Backed Securities, *The Journal of Finance*, Vol. 44, Issue 2 ((June 1989), p. 389. (“[M]ortgage values are very sensitive to the prepayment assumption.”) <http://www.anderson.ucla.edu/faculty/eduardo.schwartz/articles/37.pdf>; Record of Society of Actuaries, Asset Prepayment Assumptions, (1995, Vo. 21, No. 2), p. 273 (“Some securities are going to be very sensitive to one set of assumptions and other securities to yet other assumptions.”).

waterfall, depending on their expectations and valuation methods and assumptions. Different Noteholders will have different views of how to define and toggle the various inputs into the model, including future performance of the mortgage collateral and the discount rate.³⁸ Class members, moreover, will not universally agree on the value for RMBS, even assuming the same set of variables.³⁹ There is no reason to believe that class members would agree that whatever subjective decisions Dr. Hartzmark makes in constructing a model is appropriate to value the notes.

31. [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

38 [REDACTED]

39 [REDACTED]

40 [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED].⁴¹

32. In short, Dr. Hartzmark cannot build a price-based allocation model on which all class members will agree. Given the inefficient market, different investors will have different valuations of the same RMBS. Each type of holder will have an incentive to choose the valuation model that maximizes value to those holders, but not necessarily other groups of holders. For example, senior holders' (like named Plaintiffs here) preferred model will not necessarily maximize value for junior holders.

33. As discussed in the Amended James Report, it is incorrect to conclude that there are no conflicts or opt out issues because no tranche will be worse off than it was prior to distribution of the damages award. "The relevant comparison is not whether a Noteholder is better off than it would be without any damages award at all—virtually any model would leave a class member better off compared to no recovery. Rather, the relevant comparison is whether a Noteholder under Dr. Hartzmark's model is in at least the same position as it would be in under an individual action or under a model that actually compensates holders for their economic harm as a result of the alleged breaches."⁴² Dr. Hartzmark ignores this criticism and instead again incorrectly asserts that the relevant comparison is to no award at all.⁴³

⁴¹ [REDACTED]

⁴² See Amended James Report, ¶ 67.

⁴³ See Hartzmark Supplemental Rebuttal, ¶ 75 ("[T]here can be no intra-class conflicts so long as the contractual terms of the waterfall are adhered to... [and] no tranche is generally harmed or put in a riskier position relative to its position prior to the damages award.").

Executed this 8th day of November, 2017

A handwritten signature in black ink, appearing to read 'C. James', with a large, sweeping flourish extending to the right.

Christopher M. James, Ph.D.

Exhibit 1

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EDUCATION BACKGROUND

B.A. Michigan State University
M.B.A. University of Michigan (Finance)
Ph.D. University of Michigan (Economics: Industrial Organization, Finance)

FIELDS OF INTEREST

Financial Institutions, Corporate Finance, Applied Econometrics

PROFESSIONAL EXPERIENCE

William H. Dial/SunBank Eminent Scholar in Finance and Economics, University of Florida, 1989-present

Pembroke Scholar, University of Cambridge, Judge Business School, 2015-2016

Visiting Scholar, Federal Reserve Bank of San Francisco, 1987-1988 and 2008-2014

Visiting Professor, University of New South Wales, 1995

Consultant, FDIC, 1988-1991

U.S. Bank/ John B. Rogers Professor of Finance, University of Oregon, 1984-1989

Professor of Finance, University of Michigan, 1986

Associate Professor of Finance, University of Oregon, 1982-1984

Senior Economic Advisor, Comptroller of the Currency, Department of Treasury, 1980-1982

Assistant Professor of Finance, University of Oregon, 1978-80

Instructor, University of Michigan, 1978

PAPERS AND PUBLICATIONS

"The Technology of Risk and Return," American Economic Review, June, 1981.

"Self-Selection and the Pricing of Bank Services, An Analysis of the Market for Bank Loan Commitments and the Role of Compensating Balance Requirements," Journal of Financial and Quantitative Analysis, December, 1981.

"An Analysis of Bank Loan Rate Indexation," Journal of Finance, June, 1982.

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"Pricing Alternatives for Loan Commitments: A Note," Journal of Bank Research, Winter, 1983.

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"An Analysis of the Effect of State Acquisition Laws on Managerial Efficiency: The Case of Bank Holding Company Acquisitions," Journal of Law and Economics, April 1984, Abstracted in Regulation as "Do Corporate Takeovers Keep Managements Lean?" May/June, 1984.

"The Effect of Interest Rate Changes on the Common Stock Returns of Financial Institutions," (with M.J. Flannery), Journal of Finance, September, 1984.

"Market Evidence on the Effective Maturity of Bank Assets and Liabilities," (with M.J. Flannery), Journal of Money, Credit and Banking, November, 1984, Presented at the American Finance Association meetings in San Francisco, December, 1983.

"The Effects of Government Regulatory Agencies on Organizations in High Technology and Woods Products Industries," (with G. Ungson and B. Spicer), Academy of Management Journal, 1985.

"A VARMA Analysis of the Causal Relations Among Stock Returns, Real Output and Nominal Interest Rates," (with S. Koreisha and M. Partch), Journal of Finance, December, 1985.

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"Returns to Acquirers and Competition in the Acquisition Market: The Case of Banking," (with P. Wier), Journal of Political Economy, April, 1987.

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"Some Evidence on the Uniqueness of Bank Loans," Journal of Financial Economics, December, 1987.

"The Use of Loan Sales and Standby Letters of Credits by Commercial Banks," Journal of Monetary Economics, November, 1988.

"Empirical Evidence on Implicit Guarantees of Bank Foreign Loan Exposure," Carnegie Rochester Conference Series on Public Policy, April, 1989.

"Heterogeneous Creditors and the Market Value of Bank LDC Loan Portfolios," Journal of Monetary Economics, December, 1990.

"Borrowing Relationships, Intermediation and the Cost of Issuing Public Securities," (with P. Wier), Journal of Financial Economics, November, 1990.

"The Losses Realized in Bank Failures," Journal of Finance, September, 1991.

"Relationship-Specific Assets and the Pricing of Underwriter Services," Journal of Finance, December, 1992.

"Management and Organizational Changes in Banking: A Comparison of Regulatory Intervention with Private Creditor Actions in Nonbank Firms," (with J. Houston), Carnegie Rochester Conference Series on Public Policy, 1993.

"The Information Content of Distressed Restructurings Involving Public and Private Debt Claims," (with D. Brown and B. Mooradian), Journal of Financial Economics, February, 1993.

"Asset Sales by Financially Distress Firms," (with D. Brown and R.M. Mooradian), Journal of Corporate Finance, April, 1994.

"When Do Banks Take Equity in Debt Restructurings?" Review of Financial Studies, Winter, 1995.

"CEO Compensation and Bank Risk: Is Compensation Structured in Banking Structured to Promote Risk-Taking?" (with J. Houston), Journal of Monetary Economics, November, 1995.

"Bank Debt Restructurings and the Composition of Exchange Offers in Financial Distress," Journal of Finance, June, 1996.

"Bank Information Monopolies and the Mix of Private and Public Debt Claims," (with J. Houston), Journal of Finance, December, 1996.

"Capital Market Frictions and the Role of Internal Capital Markets in Banking," (with J. Houston and D. Marcus), Journal of Financial Economics, November, 1997.

"Do Bank Internal Capital Markets Promote Lending?" (with J. Houston), Journal of Banking and Finance, November, 1998.

"Where Do Merger Gains Come From? Bank Mergers from the Perspective of Insiders and Outsiders," (with J. Houston and M. Ryngaert), Journal of Financial Economics, May, 2001.

"Do Relationships Have Limits? Banking Relationships, Financial Constraints and Investment," (with J. Houston), Journal of Business, July, 2001.

"Do Banks Provide Financial Slack?" (with C. Hadlock), Journal of Finance, June, 2002.

"What a Difference a Month Makes: Stock Analyst Valuations Following Initial Public Offerings," (with J. Karceski and J. Houston), Journal of Financial and Quantitative Analysis, March 2006, Presented at Hong Kong Corporate Finance Conference, December, 2003.

"The Strength of Analyst Coverage Following IPO's," (with J. Karceski), Journal of Financial Economics, October 2006, Presented at 2005 American Finance Association Meetings.

"Investor Monitoring and Differences in Mutual Fund Performance," (with J. Karceski), Journal of Banking and Finance, 2006, Presented at 2001 American Finance Association Meetings.

"Banks and Bubbles: How Good are Bankers at Spotting Winners?" (with L. Gonzalez), Journal of Financial Economics, October, 2007.

"The Role of Private Equity Group Reputation in LBO Financing", (with C. Demiroglu), Journal of Financial Economics, May, 2010.

"The Information Content of Bank Loan Covenants", (with C. Demiroglu), Review of Financial Studies, October 2010. Presented at American Finance Association Meetings, 2008.

"The Use of Bank Lines of Credit in Corporate Liquidity Management: A Review of the Empirical Evidence", (with C. Demiroglu), Journal of Banking and Finance, 2011.

"Bank Lending Standards and Access to Lines of Credit", (with C. Demiroglu and A. Kizilaslan), Journal of Money, Credit, and Banking, September, 2012.

"How Important Is Having Skin in the Game? Originator-Sponsor Affiliation and Losses on Mortgage Backed Securities", (with C. Demiroglu), Review of Financial Studies, November 2012, presented at American Finance Association Meetings, 2012.

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"Asset Specificity, Industry Driven Recovery Risk and Loan Pricing", (with A. Kizilaslan), Journal of Financial and Quantitative Analysis, October, 2014, presented at American Finance Association Meetings, 2012.

"Bank Loans and Troubled Debt Restructurings" (with C. Demiroglu), Journal of Financial Economics, October, 2015.

"The Determinants of Long-Term Corporate Debt Issuances." (with D. C. Badoer), Journal of Finance, February, 2016.

"Capital Structure Changes Around IPOs" (with E. Dudley), forthcoming, Critical Finance Review.

"Indicators of Collateral Misreporting" (with C. Demiroglu), Management Science, December, 2016.

CURRENT RESEARCH

"Why are Loan Rates so Sticky?", (with D. C. Badoer and C. Demiroglu)

"I Can See Clearly Now the Fees *Aren't* Gone", (with D.C. Badoer and C Costello)

"Volatility and the Priority Structure of Corporate Debt" (with D. C. Badoer and E. Dudley) under review

"Consumption Habits of Mutual Fund Managers: Driving Green to Make Green" (with C Costello and S. Ray) under review

"Ratings Quality and Borrowing Choice" (with D. C. Badoer and C. Demiroglu), under review.

"Cash Flow Volatility and Capital Structure Choice" (with E. Dudley).

"The Effects of Leverage on Operating Performance: An Analysis of Firms' Responses to Poor Performance," (with M. Ryngaert and D. Brown), working paper.

OTHER PAPERS AND PUBLICATIONS

"The Dodd-Frank Act and the Regulation of Risk Retention in Mortgage-Backed Securities" (with C. Demiroglu) in Dodd Frank and the Future of Finance edited by Paul Schultz, MIT Press, 2014.

"How Important is Having 'Skin in the Game?" Economic Letter, Federal Reserve Bank of San Francisco, December, 2010.

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"Why Are Value Enhancing Mergers In Banking So Hard to Find? A Discussion of 'Is the Bank Merger Wave of the 90's Efficient? Lessons from Nine Case Studies,'" Kaplan, Steven (ed.), Mergers and Productivity, University of Chicago Press, Chicago, IL, 1999.

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"Bank Equity Positions in Distressed Firms," Saunders, Anthony and Ingo Walter (ed.), Universal Banking: Financial System Design Reconsidered, (Irwin), 1996.

"The Use of Index Amortizing Swaps by Banc One," (with C. Smith), Journal of Applied Corporate Finance, Fall, 1994.

"Private Versus Public Creditor Experience in Distressed Firm Debt Restructurings," (with D. Brown and M. Mooradian), Altman, Edward (ed.), Bankruptcy and Distressed Restructurings: Analytical Issues and Investment Opportunities, (Business One Irwin), 1994.

"Banc One's Index Amortizing Swap Strategy," (with C. Smith), Journal of Applied Corporate Finance, 1994.

"Studies in Financial Institution," (with C. Smith), Commercial Banks, 1994.

Statement of Christopher James, Professor, College of Business, The University of Florida at Gainesville at Hearing before the Senate Committee on Banking, Housing and Urban Affairs – 102nd Congress, 4/26/91 (BIF Recapitalization).

"Off-Balance Sheet Activities and the Under Investment Problem in Banking," Journal of Accounting, Auditing, and Finance, Spring, 1989.

"The Incidence of Mispriced Deposit Insurance," Presented at 1989 American Economic Association Meetings.

"Are Bank Loans Different? Some Evidence From the Stock Market," (with P. Wier), Journal of Applied Corporate Finance, Summer, 1988.

"Acquisitions in Banking," Weekly Letter, Federal Reserve Bank of San Francisco.

"Off-Balance Sheet Banking," Weekly Letter, Federal Reserve Bank of San Francisco.

"Are Bank Loans Special?" Weekly Letter, Federal Reserve Bank of San Francisco.

"Off-Balance Sheet Banking," Economic Review, Federal Reserve Bank of San Francisco, Fall, 1987.

Discussion of "The Search for Financial Stability: The Past Fifty Years," Proceedings from the Federal Reserve Bank of San Francisco Conference on the Search for Financial Stability, June, 1985.

"An Analysis of FDIC Failed Bank Auction Procedures," (with P. Wier), Proceedings of a Conference on Bank Structure and Competition, May, 1985.

"Bank Holding Company Acquisitions and Managerial Efficiency," Proceedings of a Conference on Bank Structure and Competition, May, 1984.

"Market Based Measures of Risk for Banks and Savings and Loan Associations," Report prepared for the Federal Home Loan Bank Board, May, 1987.

"An Economic Analysis of Inter-industry Acquisitions of Thrift Institutions," Report prepared for the Office of the Comptroller of the Currency, February, 1982.

"Loan Rate Indexation and the Allocation of Bank Credit," Proceedings of a Conference on Bank Structure and Competition, May, 1980.

SERVICE ACTIVITIES

Advisory Editor: Journal of Banking and Finance, 2007-present.

Associate Editor: Journal of Financial Services Research, 1989-present.

Associate Editor: Journal of Managerial and Decision Economics, 1988-present.

Associate Editor: Journal of Financial Economics, 1993-2016.

Editorial Board: Federal Reserve Bank of New York: Economic Review, 1997-2007.

Academic Board: Turnaround Management Association, 1990-2002.

Associate Editor: Journal of Banking and Finance, 1999-2001.

Associate Editor: Journal of Finance, 1988-2000.

Co-Editor: Journal of Financial Intermediation, 1988-1999.

Associate Editor: Journal of Financial and Quantitative Analysis, 1982-1984.

Reviewer: Journal of Finance; Journal of Money, Credit and Banking; Journal of Financial Economics; Journal of Financial Management; Journal of Banking and Finance; Journal of Business and Economics; Journal of Monetary Economics; American Economic Review; Journal of Political Economy; Review of Financial Studies; Journal of Corporate Finance; Journal of Law and Economics; Journal of Accounting and Economics.

Program Committee: Financial Management Association, Western Finance Association, American Finance Association, European Finance Association and Utah Winter Finance Conference.

CONSULTING/EXECUTIVE EDUCATION ACTIVITIES

Board of Directors ID², Inc.

Senior Advisor, Cornerstone Research.

Independent Distribution Consultant, Janus Funds, 2004-2010.

Advisory Board Big Brothers Big Sisters of North Central Florida 2000-2016.

Advisory Board and Board of Directors, SunTrust Bank of Florida 1989-2006.

Consultant, Federal Reserve Bank of New York, 1997, 2004.

Consultant, Federal Reserve Board of Governors, 1995, 1998.

Research Director, Garn Institute of Finance, Salt Lake City, Utah, 1987-1989.

Instructor, Pacific Coast Banking School: Commercial Lending, Financial Markets, Workout Lending.

Instructor, Bank Board of Directors School: Workout Lending.

Instructor, Swiss National Bank, Gerzensee, Switzerland, Bank Safety and Soundness Regulation.

Executive Seminars on bank deregulation, valuation, venture capital, strategic management, lender liability, and asset and liability management.

Expert Witness: Cases involving antitrust, portfolio management, securities valuation, bank management, structured finance, valuation, and regulatory matters.

Consultant: Product pricing, valuation, structured finance, portfolio management, utilities regulation, valuation of securities, mergers and acquisitions, and risk management.

Consultant to the Office of the Comptroller of the Currency, 1982-1983: Bank and Thrift Mergers.

Consultant to the Investment Company Institute, 1983: Bank Offerings of Mutual Funds.

Consultant to the FDIC, Costs of Resolving Bank and Thrift Failures.

Recipient of a grant from MidAmerica Institute to study management compensation in banking, 1992.

Recipient of grant from Federal Home Loan Bank Board to study the information content

of savings and loan accounting information.

Member: Research Committee: Garn Institute of Finance, 1989-1992.

Research Associate at the Business Regulation Study Center, 1980.

AWARDS

Outstanding Teaching Award: MBA Association, University of Florida, 1994, 1996, 1998, 1999, 2000, 2010.

Outstanding Teaching Award: MBA Association, University of Oregon, 1985.

Harry R. Jacobs, Professional Service Award, University of Oregon, 1985.

Valedictorian, Michigan State University, 1973.

Exhibit 2

Testimony of Christopher M. James in the Previous Four Years

Krista O'Donovan, Eduardo De La Torre and Lori Saysourivong, Individually and on Behalf of All Others v. CashCall, Inc., United States District Court Northern District of California, Case No. C 08-03174 MEJ, deposition, 2013.

In the Matter of John J. Aesoph, CPA and Darren M. Bennett, CPA, Before the United States Securities and Exchange Commission, Administrative Proceeding File No. 3-15168, trial testimony, 2013.

In re: Merck & Co., Inc. Securities, Derivative & "ERISA" Litigation, United States District Court for the District of New Jersey, MDL No. 1658 (SRC), Relating to Civil Action Nos. 05-1151 (SRC) and 05-2367 (SRC), deposition, 2013.

Kamian Schwartzman v. Morningstar, Inc., United States District Court Eastern District of Pennsylvania, Civil Action No. 2:12-cv-01647-BMS, deposition, 2013.

Financial Guaranty Insurance Company v. Countrywide Home Loans, Inc., et al., Supreme Court of the State of New York, County of New York, Index No. 650736/2009, IAS Part 3, deposition, 2013.

Kamian Schwartzman v. Morningstar, Inc., United States District Court Eastern District of Pennsylvania, Civil Action No. 2:12-cv-01647-BMS, trial testimony, 2014.

Fort Worth Employees' Retirement Fund, et al. v. J.P. Morgan Chase & Co., et al., United States District Court Southern District of New York, Civil Action No. 1:09-cv-03701-JGK, deposition, 2014.

Securities and Exchange Commission v. Larry A. Goldstone, Clarence G. Simmons, III, and Jane E. Starrett, United States District Court for the District of New Mexico, Case No. 1:12-cv-00257, deposition, 2014.

Avenue CLO Fund, Ltd., et al. v. Bank of America, N.A., et al., United States District Court for the District of Nevada, Case No. 2:09-cv-01047-KJD-PAL, deposition, 2014.

Geveran Investments Ltd. v. Lighting Science Group Corp., J.P. Morgan Securities, LLC, Pegasus Capital Advisors, LLC, et al., Circuit Court of the 17th Judicial District of Broward County, Florida, Case No. 12-17738, deposition, 2014.

Policemen's Annuity and Benefit Fund of the City of Chicago, et al. v. Bank of America, N.A., et al., United States District Court Southern District of New York, Case No. 1:12-cv-02865-KBF, deposition and testimony at hearing, 2014.

The Western and Southern Life Insurance Company, et al. v. DLJ Mortgage Capital, Inc., et al., Court of Common Pleas, Hamilton County, Ohio, Case No. A1105352, deposition, 2014.

In re: BP plc Securities Litigation, United States District Court Southern District of Texas, Houston Division, MDL No. 10-md-2185, Civil Action No. 4:10-md-2185, deposition, 2014.

Federal Housing Finance Agency v. Goldman Sachs & Co., et al., United States District Court Southern District of New York, Case No. 1:11-cv-06198-DLC, deposition, 2014.

Felton A. Spears, Jr. and Sidney Scholl, on Behalf of Themselves and All Others Similarly Situated v. First American eAppraiseIT (a/k/a eAppraiseIT, LLC), United States District Court Northern District of California, San José Division, Case No. 5:08-cv-00868-RMW, deposition, 2014.

In re: Countrywide Financial Corp. Mortgage-Backed Securities Litigation [Lead Case No. 11-ML-2265-MRP (MANx)], *Federal Deposit Insurance Corporation as Receiver for Colonial Bank v. Countrywide Securities Corporation, et al.* [Case No. 12-CV-08317-MRP (MANx)], *Federal Deposit Insurance Corporation as Receiver for United Western Bank v. Countrywide Financial Corporation, et al.* [Case No. 11-CV-10400-MRP (MANx)], and *Federal Deposit Insurance Corporation as Receiver for Franklin Bank v. Countrywide Securities Corporation, et al.* [Case No. 12-CV-03279-MRP (MANx)], United States District Court Central District of California, deposition, 2014.

In re: Fundamental Long Term Care, Inc., United States Bankruptcy Court Middle District of Florida, Tampa Division, Case No. 8:11-bk-22258-MGW, trial testimony, 2014.

Alex Morales, on Behalf of Himself and All Others Similarly Situated v. Progressive Casualty Insurance Company, United States District Court Southern District of Florida, Case No. 0:13-cv-60199-RNS, deposition, 2014.

Federal Deposit Insurance Corporation as Receiver for Franklin Bank, S.S.B. v. Morgan Stanley & Company LLC f/k/a Morgan Stanley & Co., Inc., In the District Court of Harris County, Texas, 151st Judicial District, Cause No. 2011-67305, deposition, 2014.

Securities and Exchange Commission v. BankAtlantic Bancorp, Inc. and Alan B. Levan, United States District Court Southern District of Florida, Case No. 0:12-cv-60082-RNS, trial testimony, 2014.

Mary Ann Sivoletta, et al. v. AXA Equitable Life Insurance Company and AXA Equitable Funds Management Group, LLC (Civil Action No. 3:11-cv-04194-PGS-DEA) and *Glenn D. Sanford, et al. v. AXA Equitable Funds Management Group, LLC* (Civil Action No. 3:13-cv-00312-PGS-DEA), United States District Court for the District of New Jersey, deposition, 2014.

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Federal Home Loan Bank of Seattle v. Barclays Capital, Inc., et al. (Case No. 09-2-46320-4 SEA), *Federal Home Loan Bank of Seattle v. Goldman Sachs & Co., et al.* (Case No. 09-2-46349-2 SEA), and *Federal Home Loan Bank of Seattle v. Morgan Stanley & Co., Inc., et al.*

(Case No. 09-2-46348-4 SEA), Superior Court of Washington for King County, deposition, 2015.

David M. Loritz, Individually and on Behalf of All Others Similarly Situated v. Exide Technologies, et al., United States District Court Central District of California, Master File No. 2:13-cv-02607-SVW-E, deposition, 2015.

Ambac Assurance Corporation and The Segregated Account of Ambac Assurance Corporation v. Countrywide Home Loans, Inc., et al., Supreme Court of the State of New York, County of New York, Index No. 651612/2010, deposition, 2015.

Gloria Stitt, et al. v. Citibank, N.A. and CitiMortgage, Inc., United States District Court Northern District of California, Oakland Division, Case No. 4:12-cv-03892-YGR, deposition, 2015.

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In re: JPMorgan Chase & Co. Securities Litigation, United States District Court Southern District of New York, Master File No. 1:12-cv-03852-GBD, deposition, 2015.

Barbara Strougo, Individually and on Behalf of All Others Similarly Situated v. Barclays PLC, et al., United States District Court Southern District of New York, Case No. 14-cv-5797 (SAS), deposition and testimony at hearing, 2015.

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Corporate Federal Credit Union v. Goldman Sachs & Co., et al. [Case No. 13-CV-6721 (DLC)], and *National Credit Union Administration Board, as Liquidating Agent of Southwest Corporate Federal Credit Union and Members United Corporate Federal Credit Union v. UBS Securities LLC* [Case No. 13-CV-6731 (DLC)], United States District Court Southern District of New York, deposition, 2016.

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In re: California Municipal Fund Litigation, United States District Court for the District of Colorado, Case No. 09-md-02063-JLK-KMT, deposition, 2016.

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Wahan Krikorian, On Behalf of the TPS Parking Management, LLC 401(k) Plan and On Behalf of All Other Similarly Situated Employee Benefit Plans v. Great-West Life & Annuity Insurance Company, et al., United States District Court for the District of Colorado, Case No. 1:16-cv-00094, deposition, 2016.

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In the Matter of the Arbitration between Starr Indemnity & Liability Company v. Weatherford International plc, deposition, 2017.

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Deutsche Bank National Trust Company, solely in its capacity as Trustee for the Morgan Stanley Structured Trust I 2007-1 v. Morgan Stanley Mortgage Capital Holdings LLC, as Successor-by-

Merger to Morgan Stanley Mortgage Capital Inc., United States District Court Southern District of New York, Case No. 1:14-cv-03020-LTS-AJP, deposition, 2017.

CMFG Life Insurance Company, CUMIS Insurance Society, and MEMBERS Life Insurance Company v. Morgan Stanley & Co., LLC, United States District Court Western District of Wisconsin, Case No. 13-cv-577 (JDP), deposition, 2017.

In re: Medtronic, Inc. Securities Litigation, United States District Court for the District of Minnesota, Master File No. 0:13-cv-01686-JRT-FLN, deposition, 2017.

In re: American Realty Capital Properties, Inc. Litigation, United States District Court Southern District of New York, Civil Action No. 1:15-mc-00040-AKH, deposition and testimony at hearing, 2017.

In the Matter of the Arbitration between Starr Indemnity & Liability Company v. Weatherford International plc, testimony at arbitration, 2017.

Washtenaw County Employees' Retirement System, Individually and on Behalf of All Others Similarly Situated v. Walgreen Co., Gregory D. Wasson and Wade Miquelon, United States District Court Northern District of Illinois, Eastern Division, Case No. 1:15-cv-03187, deposition, 2017.

Exhibit 3

Additional Documents Relied Upon by Christopher M. James, Ph.D.

Document Title, Bates Numbers	Document Date
Legal Pleadings	
Plaintiffs' Memorandum of Points and Authorities in Support of Renewed Motion for Class Certification and Appointment of Class Representatives and Class Counsel	June 21, 2017
Depositions	
Deposition of Marco Van Akkeren (<i>BlackRock Core Bond Portfolio et al. v. US Bank National Association</i> , United States District Court for the Southern District of New York, Case No. 14-CV-9401 (PGG))	April 7, 2017
Deposition of James Baskin (<i>BlackRock Balanced Capital Portfolio (FI), et al. v. HSBC Bank USA, National Association</i> , United States District Court for the Southern District of New York, Case No. 1:14-CV-09366 LGS-SN)	January 25, 2017
Deposition of Donald Charles Foster (<i>BlackRock Balanced Capital Portfolio (FI), et al. v. HSBC Bank USA, National Association</i> , United States District Court for the Southern District of New York, Case No. 1:14-CV-09366 LGS-SN)	March 16, 2017
Deposition of Dapeng Hu (<i>BlackRock Balanced Capital Portfolio v. HSBC Bank USA, National Association</i> , United States District Court for the Southern District of New York, No. 14-CV-9366-LGS-SN)	June 2, 2017
Deposition of Marco Van Akkeren (<i>BlackRock Allocation Target Shares: Series S Portfolio et al. v. Wells Fargo, National Association</i> , United States District Court for the Southern District of New York, No. 14-CV-9371-KPF-SN)	January 20, 2017
Deposition of Dapeng Hu (<i>BlackRock: Series S Portfolio v. Wells Fargo, National Association</i> , United States District Court for the Southern District of New York, No. 14-CV-9731-KPF-SN)	February 9, 2017
Deposition of Donald Charles Foster (<i>BlackRock Core Bond Portfolio et al. v. US Bank National Association</i> , United States District Court for the Southern District of New York, No. 14-CV-9401-KBF)	March 28, 2017
Deposition of Eric Saari (<i>BlackRock Core Bond Portfolio et al. v. US Bank National Association</i> , United States District Court for the Southern District of New York, No. 14-CV-09401-KBF)	October 5, 2017
Expert Reports	
Amended Expert Report of Christopher M. James, Ph.D.	July 28, 2017
Expert Report of Michael L. Hartzmark, Ph.D.	November 1, 2016
Expert Rebuttal Report of Michael L. Hartzmark, Ph.D.	November 14, 2016
Amended Expert Report of Michael L. Hartzmark, Ph.D.	June 21, 2017
Supplemental Expert Rebuttal Report of Michael L. Hartzmark, Ph.D.	August 18, 2017

Document Title, Bates Numbers	Document Date
Research	
“U.S. Asset-Backed Securities Evaluation Methodology,” Methodologies Binder. Interactive Data Corporation	November, 2009
“Bloomberg Valuation Service fixed income securities,” Content & Data Solutions, Pricing Data, available at https://www.bbhub.io/solutions/sites/8/2015/09/BVAL_FI_Fact_Sheet_US_DIG1.pdf	September, 2015
Stewart C. Meyers and Richard A. Brealey, <i>Principals of Corporate Finance</i> , 6th ed., McGraw-Hill Series in Finance, p. 244.	2000
Frank J. Fabozzi., <i>Advances in the Valuation and Management of Mortgage-Backed Securities</i> , Wiley, p. 58	January, 1998
Schwartz, Eduardo S. and Walter N. Torous, “Prepayment and the Valuation of Mortgage-Backed Securities,” <i>The Journal of Finance</i> , Vol. 44, Issue 2, pp. 375-392, available at http://www.anderson.ucla.edu/faculty/eduardo.schwartz/articles/37.pdf	June, 1989
Record of Society of Actuaries, Asset Prepayment Assumptions, Vo. 21, No. 2, p. 273	1995
INTEXcalc – Scenarios Summary	August 8, 2017
Bloomberg	
CapIQ	

All other materials cited in the report, as well as prior expert reports and schedules in this matter.

Appendix A

Excerpts of Cited Depositions

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